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RE: INCORPORATION OF DRILLING CUTTINGS INTO STABLE
LOAD-BEARING STRUCTURES

Application No.: 10/037,630
Examiner: Paul D. Marcantoni
Grp/Art Unit: 1755

Total Pages (Including this cover) 11

- Facsimile Transmittal Cover Sheet (1 page)
- Reply Brief (10 pages)

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Art Unit: 1755

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PATENT
Docket No. 419-06/72425.0105

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: J. Blake Scott Crp./A.U.: 1755
Appl. No.: 10/037,630 Examiner: Paul D. Marcantoni
Filed: 01/03/02
Title: INCORPORATION OF DRILLING CUTTINGS INTO
STABLE LOAD-BEARING STRUCTURES

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REPLY UNDER 37 C.F.R. § 41.41

This is Appellants' reply under 37 C.F.R. § 41.41 to the Examiner's answer mailed on 11/29/2006. Applicants note that the Examiner's answer contain a revised grounds of rejection to be reviewed on appeal because claims 6, 7, 11, 12, 14 and 15 were indicated as allowable so that claims 1-5, 8-10, 13, and 16-20 stand finally rejected. It is Applicants' understanding that these revised grounds of rejection are not new grounds of rejection as set forth in MPEP 1207.03.

SUBSTANTIVE REPLY

The following are Applicants' replies to the principal issues raised in the Examiner's answer.

Issue 1: Does the record of this application contain any legally sufficient showing to establish prima facie obviousness of any pending claim?

Relevant Authority: "To establish a prima facie case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." [Emphasis added], MPEP 2143.02, first paragraph.

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Discussion: The words "(2.1.2) forming said cementitious second mixture into the shape and size of the load-bearing structure; and (2.1.3) causing the shaped and sized second mixture formed in suboperation (2.1.2) to undergo a pozzolanic reaction to form said load-bearing structure" or their alternative, "(2.2.2) forming said asphaltic second mixture into the shape and size of the load-bearing structure; and (2.2.3) causing the shaped and sized asphaltic second mixture formed in suboperation (2.2.2) to form the load-bearing structure by curing said shaped asphaltic second mixture" are unquestionably limitations of appealed claim 1, the broadest appealed claim, because these words are copied directly from appealed claim 1. Nevertheless, the appellants have not found this claim limitation addressed anywhere in the Examiner's Answer, even though the issue was clearly raised in the Appeal Brief, beginning on page 16 with the last paragraph on that page and continuing through the end of the next page. Failure to address this claim limitation is a sufficient ground to reverse the rejection, because the Examiner's Answer and the remainder of the record of this application leave the obviousness of an important claim element unaddressed.

Issue 2: Does the Examiner's Answer contain a legally sufficient showing to establish a prima facie case of obviousness for the quantitative rutting resistance claim limitation?

Relevant Authority: "If applicant challenges a factual assertion ..., the examiner must support the finding with adequate evidence ... See also Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697 ('[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings' to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding." MPEP 2143.03 C.

Discussion: The words "said load-bearing structure having sufficient resistance to rutting that any rut formed in such surface by 10,000 applications of a single axle load of 18,000 pounds will have a depth of rutting that is less than 1 inch" unquestionably constitute a limitation of claim 1, because these words also

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are copied directly from the claim. Furthermore, this claim limitation is entirely independent of the claim limitations considered in Issue 1 above. The Examiner's Answer addresses this limitation in the following quotation: "The examiner has set forth the case of prima facie obviousness that the same mixture of components would also result in the same properties including rutting or plastic deformation resistance" (page 4, last paragraph).

The Examiner's Answer apparently considers this a self-evident proposition, because appellants have not found in the Answer any attempt to explain or justify this statement or to support it with evidence of the actual opinions of a person of ordinary skill in the art.

The appellants assert that the extent of reasoning and/or support in the record for the assertion, "the same mixture of components would also result in the same properties including rutting or plastic deformation resistance", or the somewhat fuller version from an earlier Office Action, "would have been expected to be the same, because the same components are mixed and the same properties would have been expected to result" is totally inadequate to support a conclusion of prima facie obvious according to the standards set forth by the authority set forth last above, for the reasons set forth in the immediately following left-indented paragraphs.

The assertion that "the same mixture of components would also result in the same properties" is definitely not true in all circumstances, because the assertion ignores the possibility of different processing conditions leading to a different result. For example, it is well known to chemists that mixing one mole of oxygen and two moles of hydrogen at a temperature of 0°F in a vessel that does not also contain any catalyst for the reaction between hydrogen and oxygen leads to a simple mixture of the two gases, but mixing exactly the same materials at a higher temperature in the presence of a catalyst results in complete conversion of the gases to water. As a more immediately pertinent example, when components as taught by the Polston reference are mixed and processed as claimed by Polston, the resulting product is a particulate solid, but when components, even if the components

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are the same type of material, are mixed and processed as taught in some (but not all) of the examples in the application on appeal, the result is a unified road of potentially unlimited length with rutting resistance as recited in claim 1.

The words "would have been expected" do not state by whom the conclusion would have been expected. To support the rejection, the expectation must have been that of a person of ordinary skill in the art at the time the invention was made, 35 USC 103(b). The examiner has asserted that such a person of ordinary skill would expect the conclusion, but the appellants have contested this assertion and have furnished a Declaration under 37 CFR 1.132 by a recognized expert in the field that directly contradicts the examiner's assertion about the actual expectations of persons of ordinary skill in the pertinent art, civil engineering. According to the authority cited most immediately above, this challenge to the examiner's factual assertion has not been adequately addressed: The assertions of the existence of a prima facie of obviousness against any of the appealed claims in the Examiner's Answer are either assertions about common knowledge and opinion in the art, or are the examiner's and/or a signatory SPE's personal knowledge about the expectation of persons of ordinary skill in the pertinent art. Nevertheless, the record of this application does not include either evidentiary support for this opinion or any affidavit by the examiner or SPE setting forth specific factual statements and expectation. Therefore, according to the authorities quoted above, the record is inadequate to sustain the rejection, because at least one element of the claims has not been properly shown to be obvious over the prior art.

The record does not show that even the possibility of mixing a stabilizer as recited in appealed claim 1 with drilling cuttings to produce a load bearing structure with the rutting resistance recited in claim 1 was known to anyone in the art at the time this application was filed. Therefore a person of ordinary skill in the art could not have expected this result, except as part of a general belief that any characteristic whatever of a mixture of known materials is

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expected. As already pointed out above, any such general belief simply is not reliably true. The Declaration of record states explicitly that no such general expectation exists among persons of ordinary skill in the pertinent art, and the record does not contain any evidence, other than ipse dixit assertions, that contradicts this part of the Declaration. Therefore, on the Zurko authority already noted above, the record does not contain substantial evidence to support this conclusion, and the conclusion itself may not be used to support the rejection. Nevertheless the conclusion is so used in the Examiner's Answer, constituting clear error, and this rejection should also be reversed for that reason.

Issue 4: Does an applicant/appellant have any burden to supply evidence to rebut statements by an examiner, if those statements do not make a legally sufficient prima facie case of obviousness?

Relevant Authority: "The legal concept of prima facie obviousness is a procedural tool of examination which applies broadly to all arts. It allocates who has the burden of going forward with production of evidence in each step of the examination process. See In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); In re Linter, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); In re Saunders, 444 F.2d 599, 170 USPQ 213 (CCPA 1971); In re Tiffin, 443 F.2d 394, 170 USPQ 88 (CCPA 1971), amended, 448 F.2d 791, 171 USPQ 294 (CCPA 1971); In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness." [Emphasis added] MPEP 2142.

Discussion: In view of this authority and the other arguments advanced above, every assertion in the Examiner's Answer that the appellants have a burden that they have not met in view of the purportedly established case of prima facie obviousness against any of the claims is legally erroneous, as is any further assertion in the Examiner's Answer that depends the existence of a prima facie case of obviousness of any pending claim.

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Issue 5: Can any kind of obviousness rejection properly be based on characteristics not known in the prior art, even if such characteristics are inherent?

Relevant Authority: In In re Spormann, 150 USPQ 449, 452 (C.C.P.A. 1966), it was held that:

Inherency of an advantage and its obviousness are entirely different questions.

That which may be inherent is not necessarily known.

and

Obviousness cannot be predicated on what is unknown.

Discussion: In view of this authority, an obviousness rejection based totally on an inherent property of the prior art is improper. Even assuming, arguendo, that it were inherent in Polston that mixing the instantly claimed components would produce a road surface as claimed, the existence of such a teaching in the prior art would be required by law in order to support the obviousness rejection. The examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Ex parte Levy, 17 USPQ2d 1461, 1464 (B.P.A.I. 1990). As discussed above, the Examiner's Answer has failed to make such a showing of existence of any corresponding teaching in the prior art.

DISCUSSION OF OTHER SPECIFIC STATEMENTS IN THE EXAMINER'S ANSWER

On page 4, first paragraph of the Answer, it is stated that "[T]he prior art mixes the same components to form a road base which is a load bearing structure."

As set forth in detail in the Appeal Brief from page 14, last paragraph through the last full sentence on page 16, the only prior art in the record teaches and claims processes for making a particulate road base composition, which does not become a "road base" in the normal sense of that term in the art until

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the particulate material is spread in place at the site of construction. With that method, there is no reason to believe that any pozzolanic reaction or asphaltic stabilization as recited in appealed claim 1 takes place after the road base has been finally shaped, as required in appealed claim 1. The occurrence of such a subsequent pozzolanic reaction and/or asphaltic stabilization is particularly unlikely in view of the teaching in the only prior art reference relied on that the particulate matter made according to the teachings of that reference is "generally stored" before being spread in place. It is true, although not highly pertinent, that the particulate matter is a "load bearing structure", in the sense of bearing its own weight, even when it is heaped together for storage. In that condition, however, as stated in the Declaration, the particulate heap is not expected by those of ordinary skill in the art to have the rutting resistance also required by claim 1¹.

It is also true, and only slightly more pertinent, that the particulate material originally made becomes a load bearing structure in a more ordinary sense when the particulate material is spread into a conventional "road base". Again, however, as stated in the Declaration, that sort of road base is not expected by one of ordinary skill in the art to have the rutting resistance also required by claim 1.

On page 6 of the Answer, it is argued that the appellants refer to their specification and imply that if compressive strengths are lower than 100 psi (as set forth on p.25 line 28 of appellant's specification), then by implication any product below this 100 psi value cannot be satisfactory. The appellants never used the phrase "cannot be satisfactory" in this context, and if they had it would not be legally relevant. What the appellants did imply is that if a continuous load-bearing structure has a resilient modulus ("E") value less than those values specified in Table 2 of the specification under the conditions specified in that table, a person of ordinary skill in the art would not have any reason to expect that the continuous load-bearing structure in question would have the rutting resistance recited as a limitation in claim 1. This conclusion follows from the

¹ Because of special circumstances, a particular structure might have such a rutting resistance, but it would not be expected *a priori*, the legally relevant circumstance.

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appellants' model that was used to generate Table 2 of the specification and from the correlation between resilient modulus and compressive strength shown on line 16 of page 25 of the specification. Appellants' implication had nothing to do with the reasons speculated in the remainder of this paragraph of the Examiner's Answer.

On page 7 of the Answer, it was stated that, *"if a road base is a sublayer, its still bears the load underneath the road top layer, does it not? A road base material still is a structure that handles loads bearing upon it and thus is a load bearing structure."*

Appellants respectfully disagree with the basic premise of this part of the Examiner's Answer that it is Appellant position that a road base is not a load bearing structure as used in their instant claims. The premise appears to be based on the last sentence beginning on page 14 of the Appeal Brief, but the version in the Examiner's Answer omitted a crucial phrase, "as used by Polston", after the term "road base" in the quotation from the Examiner's Answer next above. What the appellants actually argued, on the following three pages of the Appeal Brief is (i) in every instance in which the Polston references uses the term "road base" without other qualifying words, those skilled in the art would appreciate that the Polston reference refers to a particulate product that is suitable for spreading out later to create a real "road base" as that term is ordinarily used in the art² and (ii) this difference would be recognized as significant by those skilled in the art and therefore should be considered to militate against any conclusion of obviousness in view of the authorities cited on page 17 of the Appeal Brief.

On page 8 of his Answer, there is an attempt by the Examiner to rebut Appellants' argument that Polston does not teach overlapping ranges by again positing that Polston teaches the same components as appellant and appellant in their own claims (see claim 1) provides no specific range of amounts and thus

² The *Hill* authority invoked by the Examiner's Answer later in the same paragraph should have been used during the prosecution of the Polston reference to require Polston to change the term in his patent, not to try to compel the appellants to accept the misuse by Polston as dispositive.

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the same components would overlap. "Polston in his own claim 1 also does not limit the addition of binder such as cement, fly ash, lime, kiln dust, or the like just like the appellant (see again col.2, line 46)."

Appellants again assert that the claimed ranges must overlap or lie inside ranges disclosed by the prior art in order to satisfy the MPEP standards of constituting "overlapping ranges". The only ranges in pending claim 1 are the lower bounded range concerning the number of at least ten thousand repetitions of a design load that the load bearing structure made can resist without rutting to a depth of more than 1 inch, "more than 1 inch" itself being the other range. It is not seen how these can conceivably overlap with any range in the Polston reference, because the Examiner's Answer has not cited and the Appellants have not found any mention of any quantitative rutting characteristics at all in Polston.

On page 9 of the Answer, the Examiner responded to Appellants' issue that the Examiner never addressed the recited limitations in claims 13 and 15-20 in making the rejection over the teachings of Polston by noting that claim 15 has been allowed and by repeating the previously stated Answer's argument that the fact that a road base is not required to have more than 45 psi of compressive strength leaves open the possibilities that a road base can even have a compressive strength as high or greater than 100 psi and thus meet the limitations of claims 13 and 16-20.

In response, Appellants respectfully submit that the thicknesses and minimum compressive strengths recited in claims 13 and 15-20 are limitations of these claims. Therefore, a proper prima facie case of obviousness requires a positive showing by the Examiner that one of ordinary skill in the art would reasonably expect these claim limitations to be satisfied by something formed according to the teachings of Polston. The showing made in the Examiner's Answer that no prior art does not exclude these claim elements is not sufficient under the law.

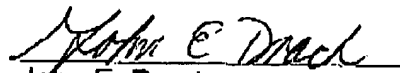
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CONCLUSION

For the reasons stated above, Appellants respectfully submit that the Examiner's final rejection of claims 1-5, 8-10, 13, and 16-20 should be reversed. Should any fee be due for entry and consideration of this Reply that has not been accounted for, the Commissioner is authorized to charge them to Deposit Account No. 160750.

Respectfully submitted,


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